

## **THE EFFECTIVENESS OF PROBIOTIC YOGURT DRINKS IN REDUCING THE NUMBER OF STREPTOCOCCUS MUTANS IN DENTAL PLAQUE OF CHILDREN AGED 12-14 YEARS**

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### **Abstract**

Caries is a disease caused by the interaction between of the bacterial plaque, diet, and dental. Plaque is dominated by Streptococcus mutans and Lactobacillus. Those are included as cariogenic bacteria because of their ability to form the acid from carbonic which can be fermented, then make cavities and thrive in acidic conditions. It can attach to the teeth surface because of its ability to make the extra-cellular polysaccharides. Generally, probiotics are microorganisms that giving many benefits to the host due to its ability to maintain the balance of intestinal microbial. Probiotics are expected to maintain oral health. In the oral cavity, probiotics can make a biofilm, acting as a protective layer for the mouth tissues and against disease by attacking cariogenic bacteria and periodontal pathogenic bacteria growth. Determine the effectiveness of yogurt, probiotic drinks, in reducing the amount of S. mutans in plaques of children, aged 12-14 years.

This study was an experimental laboratory. The amount of samples were 30 peoples. This research was conducted at two places; the orphanage of Mutmainnah and Laboratory of Microbiology, Faculty of Medicine, Hasanuddin University. This study used colony counter as measuring instruments, based on CFU method. Based on the statistical tests before drinking yogurt, we got result that children age 12 years old had the average value of colonies are 169470.8 CFU that contained as many as 56.7%, age 13 years old had the average value of colonies are 165500 CFU that contained as many as 20.0%, and the age 14 years old had the average value of colonies are 255285.71 CFU that contained as many as 23.3%. And then, after drinking yogurt for seven days, we found that there was a decrease of S. Mutans; the average value of colonies is 0.00 CFU at any age. The p-value was 0.000 ( $p < 0.05$ ), means that there were significant differences between before and after drinking yogurt to decrease the amount of S. mutans in dental plaque. There were significant differences in the number of colonies of Streptococcus mutans in dental plaque after drinking yogurt children for seven days.

**Keywords:** dental plaque, Streptococcus mutans, Probiotics, Yogurt